



PATENT

Docket No.: 176/61011 (2-11144-1010)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s) :	Chan et al.	)	Examiner:
		)	B.J. Forman
Serial No. :	10/082,634	)	
		)	Art Unit:
Cnfrm. No. :	4466	)	1634
		)	
Filed :	February 21, 2002	)	
		)	
For :	MICROCAVITY BIOSENSOR, METHODS OF	)	
	MAKING, AND USES THEREOF	)	

**DECLARATION OF HILARY GARRETT UNDER 37 CFR § 1.132**

I, HILARY GARRETT, hereby declare:

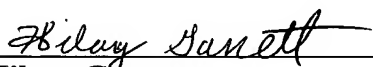
1. I received a B.A. degree from Wells College in 1983.
2. I am a Reference Librarian at Nixon Peabody LLP.
3. I understand that the following references have been cited against the above-identified application: Chan et al., "Nanoscale Microcavities for Biomedical Sensor Applications," *Proceedings of SPIE* 3912:23-24 (2000) ("Chan I"); Chan et al., "Nanoscale Silicon Microcavity Optical Sensors for Biological Applications," *Materials Research Society Proceedings Symposium F* 638:10.4.1-10.4.6 (2001) ("Chan II"); and Chan et al., "Porous Silicon Microcavities for Biosensing Applications," *Phys. Stat. Sol. (a)* 182(1):541-546 (2000) ("Chan III"). I was asked to identify the date on which each of Chan I-III became publicly available.
4. I contacted Carol Doherty in Customer Service at SPIE-The International Society for Optical Engineering to inquire into the publication date of Chan I. Ms. Doherty informed me that volume 3912 of *Proceedings of SPIE* was released on March 14, 2000. Ms. Doherty also informed me that volume 3912 of *Proceedings of SPIE* would not have been published online prior to that date.

5. I contacted a representative from Materials Research Society, publisher of *Materials Research Society Proceedings Symposium F*, by telephone to inquire into the publication date of Chan II. I was informed that volume 638 was published on October 26, 2001. I was unable to confirm an exact date on which Chan II was published online.

6. I contacted Wiley-VCH Verlag GmbH & Co. ("Wiley"), publisher of *Phys. Stat. Sol. (a)*, via e-mail to inquire into the publication date of Chan III. Andre Danelius, a Wiley representative, responded to my communication, indicating that volume 182, issue 1 of *Phys. Stat. Sol. (a)* was sent out to the subscribers on November 15, 2000. I also identified an electronic publication date for *Phys. Stat. Sol. (a)* 182(1):541-546 on the internet at <http://www3.interscience.wiley.com/cgi-bin/jissue/76500066>, which reflects an online publication date of November 28, 2000 (see Exhibit 1).

7. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 10/30/03

  
**Hilary Garrett**

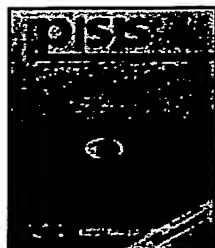


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H. Föll, J. Carstensen, M. Christophersen, G. Hasse

Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<7::AID-PSSA7>3.0.CO;2-B

[Abstract](#) | [References](#) | Full Text: [PDF](#) (Size: 256K)

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**Macropore Formation on Medium Doped p-Type Silicon (p 17-21)**

S. Lust, C. Lévy-Clément

Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<17::AID-PSSA17>3.0.CO;2-0

[Abstract](#) | [References](#) | Full Text: [PDF](#) (Size: 129K)

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**New Insights into Si Electrochemistry and Pore Growth by Transient Measurements and Impedance Spectroscopy (p 23-29)**

G. Hasse, M. Christophersen, J. Carstensen, H. Föll

Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<23::AID-PSSA23>3.0.CO;2-M

[Abstract](#) | [References](#) | Full Text: [PDF](#) (Size: 122K)

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S. Fella, N. Gabouze, F. Ozanam, J.-N. Chazalviel, K. Beldjilali

Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<31::AID-PSSA31>3.0.CO;2-W

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V. Parkhutik, E. Matveeva

Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<37::AID-PSSA37>3.0.CO;2-X

[Abstract](#) | [References](#) | Full Text: [PDF](#) (Size: 117K)

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**Amorphous-Porous Silicon Heterojunction for Gas Sensor**

R. De Rosa, G. Di Francia, V. La Ferrara, L. Quercia, F. Roca  
Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<489::AID-PSSA489>

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**Applications of Microstructured Porous Silicon as a Biocatalytic Surface (p 495-504)**

M. Bengtsson, S. Ekström, J. Drott, A. Collins, E. Csöregi, G. Marko-Varga, T. Laurell  
Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<495::AID-PSSA495>3.0.CO;2-4

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Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<505::AID-PSSA505>3.0.CO;2-#

[Abstract](#) | [References](#) | Full Text: [PDF](#) (Size: 163K)

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Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<515::AID-PSSA515>3.0.CO;2-W

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Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<521::AID-PSSA521>3.0.CO;2-7

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Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<527::AID-PSSA527>3.0.CO;2-K

[Abstract](#) | [References](#) | Full Text: [PDF](#) (Size: 115K)

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M. Bengtsson, J. Drott, Th. Laurell  
Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<533::AID-PSSA533>3.0.CO;2-W

[Abstract](#) | [References](#) | Full Text: [PDF](#) (Size: 193K)

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**Porous Silicon Microcavities for Biosensing Applications (p 541-546)**

S. Chan, P.M. Fauchet, Y. Li, L.J. Rothberg, B.L. Miller  
Published Online: 28 Nov 2000

DOI: 10.1002/1521-396X(200011)182:1<541::AID-PSSA541>3.0.CO;2-#

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PATENT

Docket No.: 176/61011 (UR-2-11144-1010)

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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For :	MICROCAVITY BIOSENSOR, METHODS OF	)	
	MAKING, AND USES THEREOF	)	
		)	
		)	

## DECLARATION OF PHILIPPE M. FAUCHET UNDER 37 C.F.R. § 1.132

I, PHILIPPE M. FAUCHET, hereby declare:

1. I received an Electrical Engineer's degree from Faculté Polytechnique (de Mons, Belgium) in 1978, an M.S. degree in Engineering from Brown University (Providence, RI) in 1980, and a Ph.D. in Applied Physics from Stanford University (Stanford, CA) in 1984.

2. I am currently a Professor of Electrical & Computer Engineering, Chair of the Department of Electrical & Computer Engineering, and Professor of Optics at the University of Rochester (Rochester, NY).

3. I am an inventor of the above-identified application, along with coinventors Selena Chan, Scott Horner, and Benjamin L. Miller.

4. I am presenting this declaration for two reasons: (i) to explain the contribution of Yi Li and Lewis Rothberg to the publications identified in paragraphs 5 and 6 below; and (ii) to identify the online publication date of Chan et al., "Nanoscale Silicon Microcavity Optical Sensors for Biological Applications," *Materials Research Society Symposium F* 638:10.4.1-10 (2001) ("Chan II").

5. I am a coauthor with Selena Chan, Yi Li, and Lewis J. Rothberg on the publication entitled "Nanoscale Microcavities for Biomedical Sensor Applications," *Proceedings of SPIE* 3912:23-24 (2000) ("Chan I").

- 2 -

6. I am also a coauthor with Selena Chan, Yi Li, Lewis J. Rothberg, and Benjamin L. Miller on the publication entitled "Porous Silicon Microcavities for Biosensing Applications," *Phys. Stat. Sol. (a)* 182(1):541-546 (2000) ("Chan III").

7. The claimed invention of the above-identified application was conceived by me and the co-inventors identified in paragraph 3 above. In making our invention, experiments were conducted by us or under the direction and control of either me or one of the co-inventors identified in paragraph 3 above.

8. At the time of conceiving the fabrication of a microcavity biosensor that contained nucleic acid probes, neither Selena Chan nor I possessed the expertise in handling DNA and binding DNA to substrates, although we were aware that a number of known and accepted procedures could be used to do so. At the request of Selena Chan and me, Yi Li and Lewis J. Rothberg demonstrated to Dr. Chan known and accepted procedures for handling DNA and attaching DNA to a substrate. Yi Li and Lewis J. Rothberg did not contribute to the conception of the invention as described and claimed in the above-identified application.

9. In addition to being a co-author of Chan II, I was the lead editor of volume 638 of *Materials Research Society Symposium F* in which Chan II appeared. To identify the date on which Chan II was published online, I contacted Peggy Costello at the Materials Research Society. Ms. Costello informed me that Chan II was published on the Materials Research Society website on August 23, 2001.

10. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Dated: November 3, 2003

  
Philippe M. Fauchet, Ph.D.